

found Room in this Plate to have inserted an O you should have seen that the letters were not more distinct then the *points* of Distinction, nor a drawn circle more exactly so, then we have now shown a *point* to be a *point*.

Observ. II. Of the Edge of a Razor.

Schem. 2.  
Fig. 2.

THE sharpest Edge hath the same kind of affinity to the sharpest Point in Physicks, as a *line* hath to a *point* in Mathematicks; and therefore the Treaty concerning this, may very properly be annexed to the former. A Razor doth appear to be a Body of a very neat and curious aspect, till more closely viewed by the *Microscope*, and there we may observe its very Edge to be of all kind of shapes, except what it should be. For examining that of a very sharp one, I could not find that any part of it had any thing of sharpness in it; but it appear'd a rough surface of a very considerable breadth from side to side, the narrowest part not seeming thinner then the back of a pretty thick Knife. Nor is't likely that it should appear any otherwise, since as we just now shew'd that a *point* appear'd a *circle*, 'tis rational a *line* should be a *parallelogram*.

Now for the drawing this second Figure (which represents a part of the Edge about half a quarter of an inch long of a Razor well set) I so plac'd it between the Object-glass & the light, that there appear'd a reflection from the very Edge, represented by the white line *abcdef*. In which you may perceive it to be somewhat sharper then elsewhere about *d*, to be indented or pitted about *b*, to be broader and thicker about *c*, and unequal and rugged about *e*, and pretty even between *ab* and *ef*. Nor was that part of the Edge *ghik* so smooth as one would imagine so smooth bodies as a Hone and Oyl should leave it; for besides those multitudes of scratches, which appear to have raz'd the surface *ghik*, and to cross each other every way which are not half of them express'd in the Figure, there were several great and deep scratches, or furrows, such as *gh* and *ik*, which made the surface yet more rugged, caus'd perhaps by some small Dust casually falling on the Hone, or some harder or more flinty part of the Hone it self. The other part of the Razor *ll*, which is polish'd on a grinding-stone, appear'd much rougher then the other, looking almost like a plow'd field, with many parallels, ridges, and furrows, and a cloddy, as 'twere, or an uneven surface: nor shall we wonder at the roughnesses of those surfaces, since even in the most curious wrought Glasses for *Microscopes*, and other Optical uses, I have, when the Sun has shone well on them, discover'd their surface to be variously raz'd or scratched, and to consist of an infinite of small broken surfaces, which reflect the light of very various and differing colours. And indeed it seems impossible by Art to cut the surface of any hard and brittle body smooth, since *Putte*, or even the most curious *Powder* that can be made use of, to polish such a body, must consist of little hard rough particles, and each of them must cut its way, and consequently leave some kind of gutter or furrows

furrow behind it. And though Nature does seem to make all kinds of fluid bodies, yet perhaps future observations will find even these also rugged; it being very probable, as I have observed, that fluid bodies are made up of small solid particles, which are continually mov'd, and may find reason to think there is scarce a fluid body perfectly smooth. The black spot *mn*, I guess to be a speck of rust, for that I have oft observ'd to be the mark of Corrosive Juices. To conclude, this Edge and piece of Razor had been really such as it appear'd through the *Microscope*, and I have serv'd to cleave wood, much less to have cut off a hair, unless it were after the manner that *Lucian* merrily relates, when made use of, when with a Carpenters Axe he chop'd off the head of a Philosopher, whose gravity he very cautiously fear'd, lest he should overthrow his Wherry.

Observ. III. Of fine Lawn, or Linnen.

THIS is another product of Art, A piece of the finest Linnen to get, so curious that the threads were scarce discernible to the naked eye, and yet through an ordinary *Microscope* you may see a goodly piece of coarse Matting it is; what proportion its threads are, being not unlike, both in shape and size, to a coarser kind of single Rope-yarn, wherewith they usually make the Linnen, which makes the Lawn so transparent, is by the *Microscope* naked eye, if attentively viewed, plainly enough evident, a multitude of square holes which are left between the threads, to have much more hole in respect of the intercurrent parts, than most part left in a lattice-window, which it does a little like, the crossing parts are round and not flat.

These threads that compose this fine contexture, are so small as those that constitute the finer sorts of Silks, have nothing of their glossie, pleasant, and lively reflection, being informed both by the Inventor himself, and several others, that though the flax, out of which it is made, has been (as I have heard that excellent Person, and Noble Vertuoso, M. Charles F. the Duke of Norfolk) so curiously dress'd and prepar'd, as to please the eye and the touch, full as fine and as glossie, and of various colours, as well as Sleeve-Silk; yet when this Silken Flax is made into threads, it quite loseth its former luster, and becomes a thread to look on, as one of the same bigness, made of flax.

The reason of which odd Phenomenon seems no other, than that though the curiously dress'd Flax has its parts so excellently equallize, if not to be much smaller then the clew of thread, especially in thinness, yet the differences between the intertwining filaments are so great, and their substances so various